

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1 IN RE: The application of Donald J. Briggs Jr.

2 TITLE OF THE INVENTION

3 Magnetic Top For Ladders and Method of Construction Thereof

4 CROSS REFERENCE TO RELATED APPLICATIONS

5 Not Applicable

6 STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND
7 DEVELOPMENT

8 Not Applicable

9 BACKGROUND OF THE INVENTION

10 1. Field of the invention

11 This invention relates magnetic supports for ladders and particularly to a
12 magnetic top built into a ladder.

13 2. Description of the Prior Art

14 Ladders have been used for thousands of years. The folding stepladder is one of
15 a long progression of developments for ladders over the past few hundred years. One
16 of the developments involving folding stepladders is the use of a support shelf. The
17 shelf is designed to fold for storage and can hold things such as small tools and paint
18 cans. As useful as this shelf is, there are problems. There is nothing to hold items on
19 the shelf. Thus tools and paint cans have been known to fall from these shelves, causing
20 injury and damage.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1 Several devices have been developed to retain things being used on the shelf,
2 and indeed for items kept on other parts of the ladder. Some of these devices are found
3 in the following patents. In U. S. Patent 5,098,052, a magnetic support tray is disclosed.
4 This tray is fastened to the support shelf on a ladder using bolts and wing nuts to make
5 it removable. In Patent No. 4,826,059, a magnetic tool holder is shown that can be
6 attached to a ladder. Patent No. 5,503,245 teaches a ladder that has a top with a webbed
7 design that allows tools and other items to be held in the web. Patent No. 5,758,807
8 discloses a magnetic paddle that holds screws and the like. The paddle can be secured
9 to a ladder if desired. U. S. Patent No. 6,443,260 teaches a tray that is attached to the top
10 of a ladder using bolts or other fasteners. The tray extend forward of the ladder and has
11 compartments that hold tools, fasteners and paint cans. Finally, Patent No. 6,587,022
12 discloses a magnetic wrap that can be secured to the top of a ladder using hook and
13 loop fasteners.

14 While all of these devices help workers keep organized and hold items on a
15 ladder, they are all designed to be portable. Moreover, some of them are cumbersome
16 and bulky.

BRIEF DESCRIPTION OF THE INVENTION

17 The instant invention overcomes these problems. It is a ladder that has a top
18 portion that has numerous magnets attached or embedded into it. The magnets
19 surround the sides of the ladder top as well as attached to the top plate. In this way,
20 tools, fasteners, paint cans, or any other metal items can be secured quickly and safely
21

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1 to the ladder top at any time. Moreover, because the device uses thin, magnetic strips,
2 the ladder top is no bulkier than a normal ladder top. Finally, because of the
3 construction, the ladder top is not covered by anything that impairs using the top in a
4 normal way, such as sitting or standing on the top (although this is not a recommended
5 practice, many workers routinely do this as part of their working habits). With this
6 device, workers can fully utilize the ladder as if there was no magnetic holder attached.

BRIEF DESCRIPTION OF THE DRAWINGS

7
8 Figure 1 is a perspective view of a ladder showing the invention in place.

9 Figure 2 is a bottom view of the ladder top showing the invention in place.

10 Figure 3 is a front view of the top portion of a ladder showing the invention.

11 Figure 4 is a side view of the top portion of a ladder showing the invention.

12 Figure 5 is a cross-section of the ladder top showing details of one construction

13 method.

14 Figure 6 is a top view of a portion of a mold showing a quantity of magnetic
15 power placed in the mold.

DETAILED DESCRIPTION OF THE INVENTION

16
17 Referring now to fig. 1, a perspective view of the invention 1 is shown. The
18 invention is a ladder top 2 that is attached to a stepladder 3. The lower portion of the
19 ladder 3 is a standard ladder base. It has steps and a folding mechanism like any
20 stepladder. The difference is in the top. The top 2 of the instant invention is a body that
21 has four sides 4 that extend downward from a top plate 5. Typically, the top is

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1 rectangular as shown; however, it can be made in other configurations. For the
2 rectangular body shown, there are two long sides 4a and two short sides 4b.

3 Referring now to figure 2, the underside of the top plate 5 is shown. Here, two
4 magnetic strips 6 are shown. There are many ways to form the magnetic strips. In one
5 case, or for existing ladders, magnetic strips can be attached to the ladder top using
6 adhesives, although this is not preferred except for pre-existing ladders.

7 Throughout this specification, the term "strip" includes rectangular, square,
8 round, or any other shape. Moreover, the magnets can be made of flexible material, a
9 ceramic material or any other material that can be attached or embedded into a ladder
10 head as described above.

11 Figure 3 shows the front of the ladder top (one of the long sides 4a. Figure 4
12 shows one of the sides 4b. In both figures, magnetic strips 6 are shown attached to the
13 sides 4a and 4b. Note that both the front and back as well as both sides of the ladder
14 top have magnetic strips attached. This gives full coverage on the ladder and gives the
15 user the greatest flexibility in positioning tools and equipment on the ladder top 5.

16 Figure 5 is a cross-section of the preferred ladder top. In this embodiment, the
17 magnetic strips are embedded in the actual material of the ladder top as part of the
18 construction of the ladder top itself. In one form, the ladder top 5a is formed of plastic
19 or other materials. Magnetic strips 6 are then placed on the inner surfaces of the top
20 and an epoxy coating 7 is then applied to the inner surface. This seals the magnetic
21 strips in a solid coating that protects the magnetic strips and leaves them isolated from

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1 contact. This also works to insulate the ladder top, which is a safety factor when the
2 ladder is used around electrical equipment.

3 Another construction method forms the top as part of a molding process. In this
4 construction, the magnetic strips are actually a magnetic powder that is mixed with the
5 synthetic material used to form the ladder head, which is then poured into the mold.
6 Figure 6 shows a portion of a mold 10. The powder that is encased in plastic, resin,
7 fiberglass or other materials common to the art using techniques that are well know in
8 those arts is then molded as a single piece that acts as one magnet. By using the
9 magnetic powder in this application manufacturing costs and time can be reduced.
10 Once the molded top is finished, the "magnet" is permanently locked into the structure.
11 Moreover, because they are completely encased, the ladder can be used around electric
12 facilities without danger.

13 The molded ladder top then becomes a magnetic tool holder that can be used like
14 a regular ladder without cumbersome devices attached to it. Moreover, the magnetic
15 capabilities are automatic. There is no complicated apparatus to attach and remove.
16 The ladder instantly receives and holds tool and other items safely and securely.

17 The present disclosure should not be construed in any limited sense other than
18 that limited by the scope of the claims having regard to the teachings herein and the
19 prior art being apparent with the preferred form of the invention disclosed herein and
20 which reveals details of structure of a preferred form necessary for a better

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

- 1 understanding of the invention and may be subject to change by skilled persons within
- 2 the scope of the invention without departing from the concept thereof.